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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,003	05/05/2005	Nobuyuki Miyaki	271877US0PCT	1366

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
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ALEXANDRIA, VA 22314

EXAMINER
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TESKIN, FRED M

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/534,003

Applicant(s)

MIYAKI ET AL.

Examiner

Fred M. Teskin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>071405</u> . | 6) <input type="checkbox"/> Other: ____.  |

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Claims 1-8 are currently pending and under examination.

The abstract of the disclosure is objected to because of undue length. Correction is required. See MPEP § 608.01(b)(C).

The disclosure is objected to because of the following informalities: a clerical error is noted on page 41, line 7: "dibromdie" should read –dibromide-. Appropriate correction of the specification is required.

Claims 5-8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, claims 5-8 have not been further treated on the merits.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US 3959234 to Kurosawa et al (hereinafter "Kurosawa").

Claim 1 is drawn to a ring-opened polynorbornene comprising a structural unit (I) represented by the general formula (I), wherein  $X^1$  means an ethylene or vinylene group and  $R^3$  represents a group represented by the general formulae (I-1) or (I-2).

Per the recited formulae (I) and (I-1), the claim is considered readable on ring-opened polynorbornene homopolymer comprising a structural unit wherein  $X^1$  is ethylene,  $R^1$  and  $R^2$  are hydrogen and  $R^3$  is phenyl. Such a ring-opened polynorbornene homopolymer is described in numerous working examples of Kurosawa. Thus, Examples 12-16 and 19-21 detail the ring-opening polymerization of N-phenyl-3,6-methylene-1,2,3,6-tetrahydro-phthalimide, a species of Kurosawa's "A-type" imide type norbornene derivative which corresponds to general formula (II) in column 3, line 55, with R being phenyl. As this norbornene derivative is identical to the applicants' monomer (1) as shown on page 21 of their specification and is subjected to the same chemical reaction (ring-opening polymerization), it follows that the resultant polymer will necessarily comprise a structural unit conforming to general formulae (I) and (I-1) as claimed. Indeed, the ring-opening reaction illustrated at column 13, lines 35+ of Kurosawa depicts a polymeric structural unit meeting the terms of claim 1 when  $X^1$  and  $R^3$  are ethylene and phenyl, respectively;  $R^1$  and  $R^2$  are hydrogen and  $m = n = 0$  in general formula (I).

The description in Kurosawa of specific embodiments of the subject matter broadly claimed in claim 1 constitutes a description of the invention for anticipation purposes. See *In re Luckach*, 169 USPQ 795 (CCPA 1971).

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurosawa.

Kurosawa is applied as in the preceding rejection. It would have been obvious to one of ordinary skill in the art to modify the homopolymer products of any of the above-cited examples through copolymerization so as to provide a structural unit (II) as per claims 2-4, given Kurosawa's expressed preference to "carry out the ring-opening polymerization of a mixture of imide type norbornene derivatives and *other cycloolefins* with the latter used at the rate of *1.0 mol at most* based on 1 mol of the former." (Column 12, final line to column 13, line 4; italics added.) The "other cycloolefins" contemplated by Kurosawa include specific chemical species which, in ring-opened form, correspond to general formula (II) (representing structural unit (II)) as set out in claim 2; e.g., norbornene and various norbornene derivatives as listed in column 11, lines 47+ and column 12, lines 64-67.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Kokuryo et al is cited as further evidence of the conventionality of ring-opening polymerization products (homopolymer and interpolymer) of norbornene derivatives

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containing at least one N-substituted cyclic imide group, wherein the imide nitrogen substituent is selected from, *inter alia*, aryl radicals and alkyl-substituted aryl radicals of specified carbon atom numbers (note col. 2, ll. 40-45 and col. 10, ll. 35-60).

No claims are allowed.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
FRED TESKIN  
PRIMARY EXAMINER  
1713

FMTeskin/11-13-05